

## United States Patent and Trademark Office

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/687,385	10/16/2003	DeQuan Yu	10541-1839	2129	
28866	7590 03/29/2006		EXAMINER		
MACMILLAN, SOBANSKI & TODD, LLC			MILLER, CARL STUART		
ONE MARITIME PLAZA - FOURTH FLOOR 720 WATER STREET TOLEDO, OH 43604			ART UNIT	PAPER NUMBER	
			3747		

**DATE MAILED: 03/29/2006** 

Please find below and/or attached an Office communication concerning this application or proceeding.

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.  Eatersions of the many be vasibled under the provision of 37 CFR 1.30(a). In or event, however, may a raply be tailwy fined  If NO pends for reply is specified above, the maximum statutory period will apply and will expire SIX (8) MONTHS from the maling date of this communication.  Fallues to reply within the set or extended period for reply will, by status, cause the application to become ABANDONED (33 U.S.C. § 133).  Any reply received by the Office letter than troe months after the maling date of this communication, even if timely filled, may reduce any seamed patient or the search and the communication, even if timely filled, may reduce any extended period for reply will, by status, cause the application to become ABANDONED (33 U.S.C. § 133).  Any reply received by the Office letter than troe months after the maling date of this communication, even if timely filled, may reduce any seamed patient than adjustment. Sea 7 CFR 1.70(b).  Status  1) Responsive to communication(s) filled on <u>06 March 2006</u> ;  2a) This action is FINAL.  2b) This action is non-final.  3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4) Claim(s) 1-3 and 5-9 is/are pending in the application.  5) Claim(s) 1-3 sand 5-9 is/are pending in the application.  5) Claim(s) 1-3 and 5-9 is/are rejected.  7) Claim(s) 1-3 and 5-9 is/are rejected.  7) Claim(s) 1-3 and 5-9 is/are rejected to .  8) Claim(s) 1-3 and 5-9 is/are rejected.  7) Claim(s) 1-3 and 5-9 is/are objected to .  8) Claim(s) 1-3 and 5-9 is/are objected to restriction and/or election requirement.  Application Papers  9) The specification is objected for reply and the community of the comm			Χľ					
Examiner Carl S. Miller  - The MAILING DATE of this communication appears on the cover sheet with the correspondence address — Period for Reply  A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.  Extensions of time may be available under the provisions of 37 CFR 1.138(p). In no event, however, may a reply be timely led  If No period for reply is specified above, the meatimum statutory period will appear and the legislar (MONTHS from the mailing date of this communication.  Falsum to reply within the set or estanded period for reply will, by statutory period will appear and the legislar (MONTHS from the mailing date of this communication.  Falsum to reply within the set or estanded period for reply will, by statute, cause the application to become ABANDONED (58 U.S.C.§ 133).  Any reply received by this Office ide than there is mains after the mailing date of this communication. even if stretcy liked, may recise any events award them explanations.  Status  1) □ Responsive to communication(s) filed on 26 March 2006.  2a) □ This action is FINAL.  2b) □ This action is finAl.  2b) □ This action is non-final.  3) □ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Exparte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4) □ Claim(s) 1.3 and 5.9 is/are pending in the application.  4a) Of the above claim(s) is/are vilhdrawn from consideration.  5 □ Claim(s) 1.3 and 5.9 is/are ellowed.  6 □ Claim(s) 1.3 and 5.9 is/are elected.  7 □ Claim(s) 1.3 is/are allowed.  8 □ Claim(s) 1.3 and 5.9 is/are elected.  7 □ Claim(s) 1.3 is/are subject to restriction and/or election requirement.  Application Papers  9 □ The specification is objected to by the Examiner.  10 □ The drawing(s) filed on 1. is/are: a) □ accepted or b) □ objected to by the Examiner.  Application Papers  9 □ The application from the Internation		Application No.	Applicant(s)					
Carl S. Miller  - The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply  A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE WAILING DATE OF THIS COMMUNICATION.  Eatherstore for men type a swidned under the provision of 30° FR1 1-360, in no worth. Drownst-may a reply be timely filed  If NO period for regly is specified above, the maximum statutory pariod will apply and will expire SIX (8) MONTHS from the mailing date of this communication.  Fallute in project within the set or excluded period for region statute of the communication of the statute of the specified above, the maximum statutory pariod will apply and will expire SIX (8) MONTHS from the mailing date of this communication.  Fallute in project within the set or excluded period for region after the mailing date of this communication, over if timely filed, may reduce almy strategy prostreed by which the set or excluded period for region after the mailing date of this communication, over if timely filed, may reduce almy strategy and the mailing date of this communication, over if timely filed, may reduce almy strategy and the mailing date of this communication, over if timely filed, may reduce almy strategy and the mailing date of this communication.  Status  1) Responsive to communication (s) filed on 06 March 2006.  2a) This action is FINAL. 2b) This action is non-final.  3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4) Claim(s) 1-3 and 5-9 Is/are allowed.  5) Claim(s) 1-3 and 5-9 Is/are allowed.  6) Claim(s) 1-3 and 5-9 Is/are allowed.  7) Claim(s) 1-3 and 5-9 Is/are allowed.  8) Claim(s) 1-3 and 5-9 Is/are allowed.  9) The specification is objected to by the Examiner.  Application Papers  9) The specification is objected to be the communicatio		10/687,385	YU ET AL.					
Period for Reply  A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.  Edentions of the may be available under the provision of 30 FCR 113(8). In no event, however, may any by be limitly flied after 50 Kg) MONTH(5 from the mailing date of this communication of 30 FCR 113(8). In no event, however, may any by be limitly flied after 50 Kg) MONTH(5 from the mailing date of this communication of 30 FCR 113(8). In no event, however, may any by be limitly flied after 50 Kg) MONTH(5 from the mailing date of this communication of 30 FCR 113(8). In no event, however, may a provide the sent of the communication. Provided the sent of the communication of 30 FCR 113(8). Any reply received by the Office later than three months after the mailing date of the communication, even if limitly flied, may reduce any seemed patient term adjustment. See 37 CFR 1.70(4b).  Status  1  ② Responsive to communication(s) filed on 26 March 2006. 2a) ☐ This action is FINAL.  2b) ② This action is FINAL.  2b) ② This action is non-final.  3] ② Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4) ② Claim(s) 1-3 and 5-9 is/are pending in the application.  4a) Of the above daim (s) is/are withdrawn from consideration.  5☐ Claim(s) is/are allowed.  6) ② Claim(s) is/are subjected to by the Examiner.  10] ☐ The specification is objected to by the Examiner.  Application Papers  9) ☐ The specification is objected to by the Examiner.  Application Papers  9) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  Application Papers  11) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR	Oπice Action Summary	Examiner	Art Unit					
Period for Reply  A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.  □ Sensitions of fines may be available under the provisions of 37 CFR 1.38(a). Inno event, however, may a may be timely filled.  □ If No period to regy is specified above, the missimum statutory pariow at under play and will expire X(b) MONTH's from the mailing date of this communication.  □ Failure to reply whithin the set or extended period for reply will. by statute, cause the application to become ABANDONED, (35 U.S.C. § 133). Any reply received by the Officie are than three monitors after the mailing eater of the communication, even if timely filled, may reduce any sensing plant term separated term separated. See 37 CFR 1.794(b).  Status  1) □ Responsive to communication(s) filled on <u>06 March 2006.</u> 2a) □ This action is FINAL. 2b) □ This action is non-final.  3) □ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4) □ Claim(s) f-3 and 5-9 la/are pending in the application.  4a) Of the above claim(s) is/are withdrawn from consideration.  5) □ Claim(s) is/are objected to.  8) □ Claim(s) are subject to restriction and/or election requirement.  Application Papers  9) □ The specification is objected to by the Examiner.  10) □ The drawing(s) filed on is/are: a) □ accepted or b) □ objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11) □ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) □ Acknowledgment is made of a claim for foreign priority under			1	_				
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.  Extensions of time may be available under the provision of 37 CPR 1.136(a). In an event, however, may a reply be timery filed after SIX (6) MONTHS from the mailing date of this communication.  11 NO period for reply is specified above, the mainimus statutory period will apply and will reply es SIX (MONTHS from the mailing date of this communication.  11 NO period for reply is specified above, the mainimus relatively period will apply and will reply es SIX (MONTHS from the mailing date of this communication.  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any ended patent term adjustment. See 37 CFR 1.704(b).  Status  1) ☑ Responsive to communication(s) filed on 06 March 2006.  2a) ☑ This action is FINAL.  2b) ☑ This action is rived.  2c) ☑ This action is rived.  4) ☑ Claim(s) 1-3 and 5-9 is/are pending in the application.  4a) Of the above claim(s) is/are withdrawn from consideration.  5b) ☑ Claim(s) is/are allowed.  6c) ☑ Claim(s) is/are allowed.  7c) ☑ Claim(s) is/are subjected to by the Examiner.  Application Papers  9) ☐ The specification is objected to by the Examiner.  10c) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11 ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12 ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) ☐ All b) ☐ Some * c) ☐ None of:  1. ☐ Certified copi	The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the c	orrespondence address					
1)⊠ Responsive to communication(s) filed on 06 March 2006.  2a)□ This action is FINAL. 2b)⊠ This action is non-final.  3)□ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4)☑ Claim(s) 1-3 and 5-9 is/are pending in the application.  4a) Of the above claim(s) is/are withdrawn from consideration.  5)□ Claim(s) is/are allowed.  6)☑ Claim(s) 1-3 and 5-9 is/are rejected.  7)□ Claim(s) is/are objected to.  8)□ Claim(s) is/are objected to.  8)□ Claim(s) is/are objected to.  9)□ The specification is objected to by the Examiner.  10)□ The drawing(s) filed on is/are: a)□ accepted or b)□ objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11)□ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12)□ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a)□ All b)□ Some c)□ None of:  1.□ Certified copies of the priority documents have been received in Application No.  3.□ Copies of the certified copies of the priority documents have been received in Application No.  3.□ Copies of the certified copies of the priority documents have been received in Application No.  3.□ Copies of the certified copies of the priority documents have been received in Application Form the International Bureau (PCT Rule 17.2(a)).  *See the attached detailed Office action for a list of the certified copies not received.	<ul> <li>WHICHEVER IS LONGER, FROM THE MAILING DA</li> <li>Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication.</li> <li>If NO period for reply is specified above, the maximum statutory period w</li> <li>Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing</li> </ul>	ATE OF THIS COMMUNICATION 16(a). In no event, however, may a reply be tin ill apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	N. nely filed the mailing date of this communication. ED (35 U.S.C. § 133).					
2a) ☐ This action is FINAL. 2b) ☑ This action is non-final.  3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4) ☑ Claim(s) 1-3 and 5-9 is/are pending in the application.  4a) Of the above claim(s) is/are withdrawn from consideration.  5) ☐ Claim(s) is/are allowed.  6) ☑ Claim(s) is/are objected to.  8) ☐ Claim(s) is/are objected to.  8) ☐ Claim(s) is/are objected to non-dorn election requirement.  Application Papers  9) ☐ The specification is objected to by the Examiner.  10) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) ☐ All b) ☐ Some * c) ☐ None of:  1. ☐ Certified copies of the priority documents have been received in Application No  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  *See the attached detailed Office action for a list of the certified copies not received.	Status							
2a) ☐ This action is FINAL. 2b) ☑ This action is non-final.  3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4) ☑ Claim(s) 1-3 and 5-9 is/are pending in the application.  4a) Of the above claim(s) is/are withdrawn from consideration.  5) ☐ Claim(s) is/are allowed.  6) ☑ Claim(s) is/are objected to.  8) ☐ Claim(s) is/are objected to.  8) ☐ Claim(s) is/are objected to non-dorn election requirement.  Application Papers  9) ☐ The specification is objected to by the Examiner.  10) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) ☐ All b) ☐ Some * c) ☐ None of:  1. ☐ Certified copies of the priority documents have been received in Application No  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  *See the attached detailed Office action for a list of the certified copies not received.	1)⊠ Responsive to communication(s) filed on 06 Ma	arch 2006.						
closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4) Claim(s) 1-3 and 5-9 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration.  5) Claim(s) is/are allowed. 6) Claim(s) is/are rejected. 7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/or election requirement.  Application Papers  9) The specification is objected to by the Examiner. 10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some c) None of: 1. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  *See the attached detailed Office action for a list of the certified copies not received.								
Application of Claims  4) Claim(s) 1-3 and 5-9 is/are pending in the application. 4a) Of the above claim(s) is/are withdrawn from consideration.  5) Claim(s) is/are allowed. 6) Claim(s) 1-3 and 5-9 is/are rejected.  7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/or election requirement.  Application Papers  9) The specification is objected to by the Examiner.  10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.	3) Since this application is in condition for allowan	ce except for formal matters, pro	osecution as to the merits is					
4)  Claim(s) 1-3 and 5-9 is/are pending in the application.  4a) Of the above claim(s) is/are withdrawn from consideration.  5)  Claim(s) is/are allowed.  6)  Claim(s) 1-3 and 5-9 is/are rejected.  7)  Claim(s) is/are objected to.  8)  Claim(s) are subject to restriction and/or election requirement.  Application Papers  9)  The specification is objected to by the Examiner.  10)  The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a)  All b) Some * c) None of:  1.  Certified copies of the priority documents have been received.  2.  Certified copies of the priority documents have been received in Application No  3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.	closed in accordance with the practice under E	x parte Quayle, 1935 C.D. 11, 45	53 O.G. 213.					
4a) Of the above claim(s) is/are withdrawn from consideration.  5) □ Claim(s) is/are allowed.  6) ☒ Claim(s) is/are rejected.  7) □ Claim(s) is/are objected to.  8) □ Claim(s) is/are objected to.  8) □ Claim(s) are subject to restriction and/or election requirement.  Application Papers  9) □ The specification is objected to by the Examiner.  10) □ The drawing(s) filed on is/are: a) □ accepted or b) □ objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11) □ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) □ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) □ All b) □ Some * c) □ None of:  1. □ Certified copies of the priority documents have been received.  2. □ Certified copies of the priority documents have been received in Application No  3. □ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.	Disposition of Claims							
5) ☐ Claim(s) is/are allowed. 6) ☐ Claim(s) is/are rejected. 7) ☐ Claim(s) is/are objected to. 8) ☐ Claim(s) is/are objected to. 8) ☐ Claim(s) is/are objected to restriction and/or election requirement.  Application Papers  9) ☐ The specification is objected to by the Examiner. 10) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) ☐ All b) ☐ Some * c) ☐ None of:  1. ☐ Certified copies of the priority documents have been received. 2. ☐ Certified copies of the priority documents have been received in Application No 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.	4)⊠ Claim(s) <u>1-3 and 5-9</u> is/are pending in the appli	cation.						
6) Claim(s) 1-3 and 5-9 is/are rejected. 7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/or election requirement.  Application Papers  9) The specification is objected to by the Examiner.  10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No.  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.	4a) Of the above claim(s) is/are withdraw							
7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/or election requirement.  Application Papers  9) The specification is objected to by the Examiner.  10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.	5) Claim(s) is/are allowed.	5) Claim(s) is/are allowed.						
Application Papers  9) The specification is objected to by the Examiner.  10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.	• • • • • • • • • • • • • • • • • • • •							
Application Papers  9) The specification is objected to by the Examiner.  10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.	· ·	alastias sassinas sat						
9) The specification is objected to by the Examiner.  10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.	8) Claim(s) are subject to restriction and/or	election requirement.						
10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.	Application Papers							
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No.  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.	9) The specification is objected to by the Examiner	•						
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.	10)☐ The drawing(s) filed on is/are: a)☐ acce	epted or b) objected to by the I	Examiner.					
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.		= ' '	` '					
Priority under 35 U.S.C. § 119  12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.			•					
12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No.  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.	Trip The bath or declaration is objected to by the Exa	aminer. Note the attached Office	Action or form PTO-152.					
a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.	Priority under 35 U.S.C. § 119							
<ul> <li>1. Certified copies of the priority documents have been received.</li> <li>2. Certified copies of the priority documents have been received in Application No</li> <li>3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).</li> <li>* See the attached detailed Office action for a list of the certified copies not received.</li> </ul> Attachment(s)	12) Acknowledgment is made of a claim for foreign	priority under 35 U.S.C. § 119(a)	)-(d) or (f).					
2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  Attachment(s)	· ·-							
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  Attachment(s)		_						
application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  Attachment(s)	_							
* See the attached detailed Office action for a list of the certified copies not received.  Attachment(s)		•	ad in this National Stage					
Attachment(s)	• •	` ''	he					
	2 2 2 3 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4		· <del></del>					
	Attachment(s)							
	1) X Notice of References Cited (PTO-892)							
(A)								
Paper No(s)/Mail Date 6) Other:		_						

Application/Control Number: 10/687,385

Art Unit: 3747

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 4-7 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minagawa ('797) in view of Powell or Tuckey ('455).

Powell teaches the basic structure of applicant's system including a relief valve that produces a fuel pressure that remains relatively constant. The fuel pump produces fuel pressure that is relatively constant since it runs at a constant speed as a result of being fed by a constant voltage. Since the pressure regulator disclosed by applicant appears to be no different from those suggested by Powell, it is not clear how applicant's regulator would be more responsive to engine demand than that of Powell.

Minagawa clearly teaches a fuel system that uses an electrically driven pump and a non-return rail. Instead of using a fuel pressure sensor to determine fuel pressure Minagawa estimates the fuel pressure using flow rates and then sets the injector width based upon the estimated fuel pressure (See column 4, lines 27-30). The flow rates that are used are based upon engine demand in that they are proportional to the current rates to the pump that are, in turn, set by engine demand.

Tuckey teaches a non-return fuel rail that normally operates under a constant fuel flow rate to the rail. Since the system teaches only the pump and the overpressure relief valve between the tank and the rail, the pump output itself must be constant in order to produce this result.

Application/Control Number: 10/687,385

Art Unit: 3747

It would have been obvious to modify Minagawa by using the method of Powell or Tuckey to supply fuel pressure to the rail because both systems were non-return fuel rails systems being fed fuel by electrically driven pumps.

Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minagawa and Powell or Tuckey as applied to claims 1 and 6 above, and further in view of Gaskins.

Gaskins teaches the use of look-up tables to store input and output data for the control of electric pumps feeding a common rail fuel system.

It would have been obvious to use the tables of Gaskins to store the demand data used in Minagawa because the two references were using similar electric pumps in the same environment.

Applicant's arguments filed March 6, 2006 have been fully considered but they are not persuasive.

The applicant's argument that neither reference applied against Claim 1 in the Final Rejection taught the use of a constant output pump to the rail has been found convincing as has his argument that there was support in the claims for this new limitation in Claim 1.

Unfortunately, as shown by Powell and Tuckey, the use of a constant pressure electric pump to supply pressure to a non-return rail is well known in the art and, as noted in the above rejection, the examiner cannot see how the regulator disclosed by the applicant would function any differently than that taught by Powell or Tuckey.

Application/Control Number: 10/687,385 Page 4

Art Unit: 3747

Due to the use of new art against the claims the Final Rejection of 1/30/06 is hereby withdrawn and this action has been made non-final. Finally, applicant's amendment to the specification has been entered.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl S. Miller whose telephone number is 571-272-4849. The examiner can normally be reached on MTWTHF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry YUEN, can be reached at 571-272-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Carl S. Miller
Primary Examiner